REMARKS/ARGUMENTS

Prior to entry of the amendments specified above, claims 1-7 are pending in the application under a non-final rejection. Claim 1 has been amended, and new claims 8-10 have been added. New claims 8-10 are fully supported by the specification. No new matter has been added.

I.   Foreign Priority Document

Applicants also wish to bring to the attention of the Examiner that the priority claim to German application no. 10000626.4, filed on November 23, 2000, a certified copy of which was submitted to the Patent Office on January 22, 2002, has not yet been acknowledged in the most recent official Action, Paper No. 15.

II.   Objection to the Specification/New Oath or Declaration

Applicants plan to submit a new declaration omitting a priority claim under 35 U.S.C. § 120.

III.   Claim Objections

Claim 6 has been objected to based on an informality at line 2, which recites that the limitation "object types" should be replaced by "object type." Claim 6 has accordingly been amended to delete "object types" and substitute "object type," as suggested by the Examiner. No new matter has been added. Claim 6 is, therefore, submitted to be allowable.

IV.   Nonstatutory Double Patenting Rejection

Claims 1, 2, and 4-7 stand rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-29 of U.S. Patent No. 6,539,268. The patent that forms the basis of this rejection is commonly owned with this application. Applicants disagree with this basis for rejection, but submit with this paper a terminal disclaimer in compliance with 37 C.F.R. § 1.321(c) in order to further prosecution of the application. The terminal disclaimer overcomes the obviousness-type double patent rejections of claims 1, 2, and 4-7. Entry of this terminal disclaimer and allowance of claims 1, 2, and 4-7 is respectfully requested.

V. Rejections Over Prior Art Under 35 U.S.C. § 102(a)

In response to Applicant's previous amendment, the rejection of pending claims 1-2 and 4-7 under 35 U.S.C. 103(a) as obvious over a combination of U.S. Patent No. 5,933,638 to Cencik (hereinafter "Cencik") and U.S. Patent No. 6,438,444 to Mizuno was withdrawn.

The claims now stand rejected under 35 U.S.C. 102(a) over Cencik alone.

Applicants appreciate the Examiner's remarks at paragraph 10 of the office action, but respectfully submit that the new ground of rejection is misplaced and should be withdrawn. In addition, Applicants refer to and incorporate by reference all arguments set forth in their Amendment of September 25, 2003.

i. General

As described in the application, the present invention is intended, among other things, to permit the creation of optimal configurations for combined PLC/NC controllers. The configurations can be optimized for their controller structures, for their functionality with respect to different controller tasks, and for their compatibility with different constraints or requirements associated with the underlying technical processes they are involved in controlling. According to an aspect of the invention, descriptive information for the controller, which may include parameterization information, is made available from a data source to the engineering system via a converter that prepares and distributes the descriptive information to at least the engineering system. Among other resulting advantages, original equipment manufacturers, whose systems may incorporate or otherwise work in conjunction with such a combined PLC/NC controller, may create the descriptive information, and that descriptive information can be entered into the data source for conversion and provision to the engineering and/or run-time system. In addition, as described in the specification, such parameterization information relating to the description of system variables, alarms, and commands can be consistently provided to different locations in the controller by means of the data source and converter.

Another aspect of the claimed invention involves the use of a uniform run level model with user and system levels having differing priorities, including a plurality of run levels of differing types and priority levels. Among other advantages, the uniform run level model and the run levels can minimize communication between the motion control and process control tasks by arranging the controller tasks within the run levels. As a result, motion and process

control programming is facilitated using a uniform programming language with a uniform interface. Yet another advantageous aspect of the present invention is provided by technology packets that are loaded into both the engineering system and the run time system. These technology packets, as described in the application, have particular components and are loaded into either or both the engineering system and/or the run time system.

ii.   Relevant Legal Authority

The PTO bears the burden of establishing that the claims of a patent are anticipated by a prior art reference. Ex Parte Levy, 17 USPQ2d 1641, 1462 (Bd. Pat. App. & Inter. 1990). Establishing that a claim is unpatentable due to anticipation involves a two-step process. Key Pharmaceuticals, Inc. v. Hercon Labs. Corp., 161 F.3d 709, 48 USPQ2d 1911 (Fed. Cir. 1998). First, the claim must be construed; then it must be applied to the prior art. Id.

It is well-settled that, in interpreting a claim, one should look first to the intrinsic evidence, i.e., the patent itself, including the claims, the specification and, the prosecution history. Markman v. Westview Instruments, Inc., 52 F.3d 967, 976-979; Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582-83 (Fed. Cir. 1996). While the actual words of the claims are the controlling focus, as properly construed, the claims must always be read in view of the specification of which they are a part. Markman, 52 F.3d at 979.

After the claims have been properly construed, it is incumbent upon the Examiner to identify where each and every facet of the invention is disclosed in the applied reference. See Levy, 17 USPQ2d at 1462.

iii.   Claim 1

Claim 1, as amended to address certain informalities and to more particularly point out the subject matter of Applicants' invention, is directed to a "motion controller having an engineering system and a run time system and that functionally combines the classic tasks of a PLC and a numerical controller" and includes a number of specific limitations.

The PTO has not met its burden of properly construing the claims and demonstrating that all claim limitations, as properly construed, are shown by Cencik.

   a. "a uniform run level model comprising a plurality of run levels of different types having differing priorities and further comprising a plurality of user and system-levels having differing priorities"

As discussed in their Amendment of September 25, 2003, Applicants respectfully submit that Cencik neither discloses nor suggests this limitation of claim 1. Cencik in no way discloses or suggests a uniform run level model or a plurality of run levels of different types, including user and system levels having differing priorities.

Cencik has been recited as allegedly teaching a uniform run level model comprising a plurality of run levels of differing types having different priorities. Col. 8, line 42 to col. 9, line 33. The recited passage of Cencik purports to describe the properties of the cells within an "object evaluation matrix." These cell properties include "Thread," "Priority," "Wait for," "Break Point," etc., used in multitasking, multi-processor environments. These terms (i.e., "Thread," etc.) have specific meanings, as referenced by Cencik at col. 9, lines 9-12. The cell properties with their respective specific meanings fail to describe or suggest a uniform run level model as claimed. No run levels, let alone user and system levels as recited, are described in connection with the cells. The recited language has not, and cannot, be construed to cover Cencik. The PTO has failed to meet its burden under 35 U.S.C. 102(a).

Cencik does not disclose or suggest a uniform run level model, but actually teaches away from it. There is no uniformity associated with the Cencik object evaluation matrix and the application program that results from it. To the contrary, in Cencik the user may arrange the cells for execution in any preferred or default order (i.e., "scan order"), which is not based on any particular model, let alone one that is uniform. See Cencik, col. 5, line 50 - col. 6, line 3, and Figs. 6A and 6B. "The method for utilizing the various objects of Object Evaluation Matrix 250 (see FIG. 16) is completely up to the user, as defined by the scan order list." Cencik, col. 10, lines 60-66. This is directly contrary to what is claimed.

> b.   "a data source for containing description information for at least one of the group consisting of system variables, alarms and commands"

Claim 1 also recites a data source for containing description information for at least one of the group consisting of system variables, alarms and commands. This limitation, too, is neither disclosed nor suggested by Cencik.

Cencik allegedly describes linking objects together to create complete application programs, where an object has been defined as "a basic structural unit of analysis stored in an area of memory." Col. 2, lines 24-43. Accordingly, complete application programs are

generated by placing objects in the object evaluation matrix and connecting them either automatically, semi-automatically, or manually. Examples of these objects may be a program, program component, procedure, subroutine, I/O handler, timers, etc., none of which describe or suggest description information, much less description information associated with system variables, alarms and commands that are stored in a data source, as claimed.

        c.   "a converter coupled to the data source and to at least the engineering system"

As further recited in claim 1, a converter is coupled to the data source and the engineering system. The passage relied on by the PTO as showing this limitation (col. 2, lines 24-43, and col. 4, lines 9-23) relates to the creation of an object evaluation matrix, where objects directed to executable functions are placed in the appropriate matrix cells. The user may also define the object properties, which are typically values that correspond to the particular type of object.

The Examiner seeks to equate an object evaluation matrix to a converter. However, Applicants respectfully submit that the Examiner has provided no legitimate basis for construing "converter" in a manner that would cover Cencik's object evaluation matrix. The word "convert" does not appear in the Cencik patent. The recited passage of Cencik therefore does not describe or even suggest a converter, as claimed, much less one coupled to the data source (missing from Cencik) and to at least the engineering system.

        d.   "wherein the data source provides the description information (i.e., system variables, alarms and commands) to the engineering system via the converter"

Claim 1 also recites that "the data source provides the description information (i.e., system variables, alarms and commands) to the engineering system via the converter. The passage from Cencik relied upon in support of the rejection (col. 2, lines 24-43, discussed above) not only does not disclose the recited data source, but also fails to disclose or suggest its provision of description information to an engineering system via a converter. To the contrary, in the cited passage there is no data source doing anything. Rather, the Cencik disclosure merely

"allows a person to use a computer to graphically place objects into an Objects Evaluation Matrix." Col. 2, lines 28-30 (emphasis added). Thus, this passage neither discloses nor suggests the recited structure. It includes absolutely no mention or suggestion of any of these particular, recited features of Applicant's motion controller.

    e. "the motion controller being further configured to permit a technology packet to be loaded into at least one of the engineering and run time systems, to provide the system variables with current data for a technical process for the run time system, and to permit input to be made via a user interface of the engineering system."

Finally, claim 1 recites various additional limitations relating to the loading of a "technology packet" into at least one of the engineering and run time systems, providing system variables with current data for a technical process for the run time system and permitting input to be made via a user interface of the engineering system. These claim limitations are said to be shown by Cencik at col. 10, line 40 – col. 11, line 52. Neither the cited passage nor any portion of Cencik has been shown, however, to disclose or suggest a "technology packet" or the loading of a technology packet into an engineering or run-time system.

The PTO states that "technology packets" can be broadly interpreted as any packet of information or data." (Office Action at p. 5). Applicants respectfully submit that this contention is legally and factually erroneous. In reaching this construction, the PTO has impermissibly ignored Applicants' specification. See <u>Markman</u>, <u>Vitronics</u>. The Examiner is respectfully directed, for example, to page 4, lines 15-23, pages 11-13 and Figure 6 of Applicant's specification describing embodiments of a technology packet.

Technology packets, as described by Applicants, comprise various components, as exemplified in FIG. 6, and described on p. 11-13 of the Application. The term "technology packets" has not been, and cannot be, construed in a manner that is not disclosed or suggested by Cencik's object modules (FIG. 16). For one example, Cencik's object modules do not comprise executable code parts, technology objects (also as properly construed in light of Applicants' specification), firmware configuration, parameters, programming language features, and a declaration and description part.

Thus there has been no showing that the term "technology packets," when properly construed, is disclosed or suggested by Cencik. The applied passage from Cencik appears to

relate simply to software objects, which are not what is recited in the claims. This is particularly clear when the claims are interpreted – as they must be – in light of Applicants' specification. Cencik also does not describe loading anything into the engineering <u>and</u> run time systems.

Further, Cencik's object evaluation matrix supposedly provides a means for developing process control applications and programming at an application level. Contrary to the PTO's position that "once constructed, the application program functions as a run-time system," Cencik does not in any way describe or suggest a run time system. The PTO thus appears to suggest, without any proper legal basis, that the recited limitations are inherent in the Cencik disclosure. (Office Action, p. 4, first paragraph).

The PTO has failed to meet its burden of showing that all recited limitations, as properly construed, are identically disclosed in the cited reference. Reconsideration and allowance is respectfully requested.

iv.   Claim 2

Claim 2 depends from claim 1 and is, therefore, submitted to be allowable for the same reasons. Moreover, claim 2 is directed to the forwarding of relevant documentation information by the converter from the data source to an output medium. As discussed above, Cencik fails to disclose or suggest a converter or a data source. The reference therefore cannot disclose forwarding relevant documentation information from the data source to an output medium by means of the converter. Claim 2 is, therefore, submitted to be directed to patentable subject matter.

v.   Claim 4

Claim 4 depends from claim 1 and is submitted to be allowable for the same reasons. Claim 4 is directed to a technology packet that comprises code parts and a configuration part. The code part represents controller specifics for the run time system. The configuration part exhibits the allocation of those code parts to each of the system-levels, as well as the sequence of their processing. Also, information relating to the configuration part is forwarded as needed to the engineering system. Cencik is said to describe the creation of an application program by placing objects into the appropriate cells within the object evaluation matrix. Col 4., lines 9-22. Each object is typically a function to be executed, not a "technology packet" as properly construed in light of Applicants' specification. As discussed above, a technology packet cannot be properly construed as "any packet of information or data." Rather, it is to be construed in

light of Applicants' specification to be capable of having code parts and a configuration part. The configuration part, among other things, "exhibits the allocation of code parts to each of the system-levels," whereas Cencik's purely functional objects must be manually placed within the object evaluation matrix. Moreover, Cencik's fails to describe or even suggest sequencing the processing of code parts, also as recited. On these grounds, claim 4 is separately directed to patentable subject matter and is, therefore, allowable.

vi.   Claim 5

Claim 5 depends from claim 4 and is submitted to be allowable on the same basis. Claim 5 also recites that the information of the configuration part of a technology packet is delivered to the run time system and the engineering system by use of the data source and the converter. Cencik allegedly describes functional object modules that are placed in the object evaluation matrix for compilation as an application program associated, for example, with a coffee/tea/cappuccino machine. Col. 10, line 40 – col. 11, line 52. Cencik does not describe or suggest a technology packet, as properly construed in view of Applicants' specification, much less the configuration part of a technology packet. Cencik also therefore fails to describe or suggest delivering the configuration part to the run time system and the engineering system using a data source and converter. As Cencik fails to describe or suggest any of the patentable features of claim 5, for these separate reasons, claim 5 is submitted to be allowable. Reconsideration and allowance is, therefore, respectfully requested.

vii.   Claim 6

Claim 6 depends from claim 4, and is, therefore, submitted to be allowable on the same grounds. In addition, claim 6 is directed to a technology packet comprising at least one technology object type for the run time system. Col. 2, lines 38-43, of Cencik purportedly describes organizing objects into a complete program. Cencik, however, does not describe or suggest technology packets, much less a technology packet comprising at least one technology object, as those terms are properly construed in view of Applicants' specification. Moreover, Cencik fails to describe or suggest a run time system, which is not surprising, since Cencik primarily appears to be concerned with the application level of programming. Based on the foregoing, claim 6 is separately directed to patentable subject matter. Claim 6 is, therefore, submitted to be allowable. Reconsideration and allowance is respectfully requested.

viii.   Claim 7

Claim 7 depends from claim 4 and is, therefore, allowable for the same reasons. Claim 7 is directed to information presented on the user interface, where the information comprises at least one of the group consisting of operating parameters, programming language features and declaration parts allocated to the code parts. Col. 8, lines 49-60, of Cencik is allegedly related to defining cell properties within the object evaluation matrix. The cells or their respective properties are not described, suggested, or related in any way to technology packets. They cannot be said to describe or suggest "information" that is related to the configuration part of such technology packets. Cencik therefore does not describe or suggest the recited information comprising operating parameters, programming language features and declaration parts allocated to the code parts. Claim 7 is therefore allowable. Reconsideration and allowance is, therefore, respectfully requested.

ix.   New Claims 8-10

New claims 8-10 are submitted to be allowable for the reasons set forth above and because the limitations recited in those claims is not disclosed or suggested by the art of record.
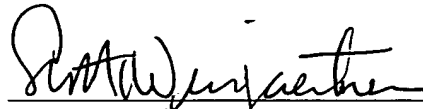

CONCLUSION

Upon entry of this Amendment, claims 1-10 are pending in the Application. Applicants submit that the claims, for the reasons set forth above, are now in condition for allowance. Reconsideration and allowance are therefore respectfully requested.

If a fee is required, the Assistant Commissioner is authorized to charge the fee to Deposit Account No. 23-1703.

Dated: _5/20/04_   Respectfully submitted,

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